

REMARKS

Claims 1-3 and 6-10 are pending. Claims 4-5 and 11-31 were previously canceled. Claim 1 is amended to clarify the scope of the invention. Support for the amendment may be found in the specification as published, e.g., at least at paragraph [0022] and FIG. 1.

Rejection of Claims Under 35 U.S.C. § 103

Claims 1-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 724,569 to Gragert (“Gragert”) in view of U.S. Patent No. 6,622,612 to Notzon (“Notzon”) in view of U.S. Patent No. 1,721,245 to Black (“Black”). The rejection of claims 4-5 is moot in view of the cancellation of those claims.

Gragert appears to disclose a pump 1 with a handle 2. *See* page 1, lines 35-38 of Gragert. The handle 2 is connected to a pump-rod 10, which has pistons 11 and 12 disposed thereon. *See* page 1, lines 59-65 and FIG. 2 of Gragert. Notzon appear to disclose a pump 1 with a crank mechanism 3 for driving a plunger 5. *See* column 2, lines 43-47 of Notzon. The plunger 5 can be made of rigid materials such as ceramics or hard metal. *See* column 2, lines 47-49 of Notzon. The Examiner recognizes that neither of these references teaches a flexible drive member, and relies on Black to provide this feature. *See* page 3 of Office Action.

Black appears to disclose cup-shaped plungers 2 in tight sliding engagement with a working barrel 1. *See* page 1, lines 91-94 and FIGS. 1, 3, and 5 of Black. Each plunger 2 is associated with a socket 5 that fits snugly about a flexible cable section 7. *See* page 1, lines 100-105 and FIGS. 1, 3, and 5 of Black. An upper socket 8 is similarly secured to the cable 7. *See* page 1, lines 109-111 and FIGS. 1, 3, and 5 of Black. A spacer 9 (also identified as element 49 in FIG. 3 and as element 39 in FIG. 5) maintains spacing between the sockets 5 and 8, and also limits longitudinal movement of the cup plunger 2 with respect to the sockets 5 and 8. *See* page 2, lines 2-8 and FIGS. 1, 3, and 5 of Black. The spacer 9 also makes the construction more rigid and prevents buckling of the cable sections 7. *See* page 2, lines 8-13 of Black.

Black's teaching of using a spacer, as depicted and described with respect to each of Black's embodiments, is directly contrary to Applicants' claimed "flexible drive member . . . permitted to buckle." Applicants specifically identified the additional material and infrastructure required to prevent buckling as a problem in typical deep well pumps that needed to be addressed. *See* paragraph [0022] of Applicants' specification as published. Applicants' flexible drive member is clearly depicted as buckling in FIG. 1, which would be impossible if one were to incorporate the spacer 9, 49, or 39 along the flexible cable section 7 of Black into the pumps of Groger and Notzon.

Accordingly, Applicants respectfully submit that amended independent claim 1 is patentable over Gragert in view of Notzon in view of Black. Because claims 2-3 and 6-8 depend directly or indirectly from this independent claim and include all respective limitations thereof, Applicants submit that these claims are patentable as well. Reconsideration and withdrawal of the rejection of claims 1-3 and 6-8 under 35 U.S.C. § 103(a) as being obvious in view of the references cited above are respectfully requested.

Claims 1, 6-7, and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 149,953 to Robaugh ("Robaugh") in view of Notzon in view of Black.

Robaugh appears to disclose a pump with a solid piston rod D2 to drive a pistons D1 and A2. Thus, the additional Robaugh reference does not provide what is missing in Groger, Notzon and Black. Namely, Robaugh does not disclose or suggest a flexible piston drive member permitted to buckle, as required by amended claim 1. The Examiner recognizes that Robaugh does not teach a flexible drive member. *See* page 6 of Office Action.

Accordingly, Applicants respectfully submit that claims 1, 6-7, and 9 are patentable over the cited prior art. As claims 6-7 and 9 depend directly or indirectly from claim 1 and include all respective limitations thereof, Applicants therefore respectfully submit that these claims are patentable as well. Reconsideration and withdrawal of the rejection of claims 1, 6-7 and 9 under 35 U.S.C. § 103(a) as being obvious in view of the references cited above are respectfully requested.

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Robaugh in view of Notzon and Black, and in further view of Gragert.

The deficiencies of each of these references is described above. Namely, none of the references discloses or suggests a flexible piston drive member permitted to buckle.

Accordingly, Applicants respectfully submit that claim 10 is patentable over the cited prior art. As claim 10 depends indirectly from claim 1 and includes all respective limitations thereof, Applicants therefore respectfully submit that this claim is patentable. Reconsideration and withdrawal of the rejection of claim 10 under 35 U.S.C. § 103(a) as being obvious in view of the references cited above are respectfully requested.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all claims are in condition for allowance.

Applicants believe that no fee beyond the fee for the Petition for Extension of Time is due for filing of this Response. However, if any additional fee is due, please charge any such fee occasioned by this paper to our Deposit Account No. 07-1700.

If the Examiner believes that a telephone conversation with Applicants' attorney would expedite allowance of this application, the Examiner is cordially invited to call the undersigned attorney at (617) 570-1936.

Respectfully submitted,

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